

CLAIMS

What is claimed is:

1. A damper control device comprising, in combination:

a fireplace and a flue, wherein products of combustion from the fireplace enter the flue;

a damper positioned in a damper pipe operatively connected to the flue, wherein the damper is movable between a closed position where the damper pipe is blocked and an open position;

a motor having a rotatable shaft extending therefrom operatively connected to the damper; and

a control circuit which transmits a fireplace signal to open a gas valve to initiate combustion and to close a gas valve terminate combustion at the fireplace, and which receives a damper signal indicating whether the damper is in the closed position or the open position;

wherein when a fire is desired at the fireplace, the control circuit sends the fireplace signal to open the gas valve after receiving the damper signal indicating that the damper is in the open position.

2. The damper control device of claim 1 wherein the fireplace is a gas fireplace and after the damper is in the open position the control circuit sends the fireplace signal to the fireplace to ignite gas at the gas fireplace.

1 3. The damper control device of claim 2 wherein the damper moves to the  
2 closed position at a predetermined time after the gas fireplace circuit has sent the  
3 fireplace signal to terminate combustion by shutting off the gas at the gas fireplace.

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5 4. The damper control device of claim 1 wherein the damper is positioned near a  
6 top of the flue.

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8 5. The damper control device of claim 1 further comprising a status module  
9 comprising at least one of indicators and a service switch to send a signal to hold the  
10 damper in the open position.

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12 6. The damper control device of claim 5 wherein each indicator indicates the  
13 status of one of: whether the damper signal indicates the damper is in the open  
14 position or the closed position; whether the fireplace signal has been sent; and  
15 whether the damper control device has power.

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17 7. The damper control device of claim 1 wherein the control circuit sends a  
18 signal to hold the damper in the open position in response to predetermined criteria  
19 comprising at least one of heat, carbon dioxide concentration, and carbon monoxide  
20 concentration.

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22 8. A damper control device comprising, in combination:  
23 a damper pipe adapted to be connected to a flue;

1 a damper positioned in the damper pipe and movable between a closed  
2 position and an open position;

3 a motor having a rotatable shaft extending therefrom operatively connected to  
4 the damper;

5 a control circuit which controls the motor to rotate the shaft and in turn rotate  
6 the damper to the closed position and to the open position; and

7 a mounting member, wherein the mounting member is a plate extending  
8 generally perpendicularly from the damper pipe and is adapted to connect to a  
9 chimney.

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11 9. The damper control device of claim 8 further comprising mounting brackets  
12 affixed to the mounting member and adapted to connect to the chimney.

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14 10. The damper control device of claim 8 wherein a projection of the damper pipe  
15 extends past the mounting ring and is adapted to enter the flue.

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17 11. The damper control device of claim 8 wherein the motor is housed in a  
18 damper control box remote from the damper.

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20 12. The damper control device of claim 11 wherein the shaft extends from the  
21 damper control box to the damper pipe and is at least partially enclosed by a shroud.

1 13. The damper control device of claim 12 wherein the shroud is provided with  
2 ventilating holes.

3  
4 14. A damper control device comprising, in combination:

5 a damper pipe;

6 a damper positioned in the damper pipe and movable between a closed  
7 position and an open position;

8 a motor having a rotatable shaft extending therefrom operatively connected to  
9 the damper;

10 a control circuit which controls the motor to rotate the shaft and in turn rotate  
11 the damper to the closed position and to the open position; and

12 an adapter comprising an interior pipe and an exterior pipe connected to the  
13 interior pipe, with a first air passageway formed between the interior pipe and the  
14 exterior pipe and a second air passageway formed in the exterior pipe so that air can  
15 pass through the first and second air passageways and past the adapter;

16 wherein the interior pipe is connected to the damper pipe and adapted to be  
17 connected to an air-cooled flue.

18  
19 15. The damper control device of claim 14 wherein the interior pipe is adapted to  
20 fit snugly inside the air-cooled flue.

1 13. The damper control device of claim 12 wherein the shroud is provided with  
2 ventilating holes.

3  
4 14. A damper control device comprising, in combination:

5 a damper pipe;

6 a damper positioned in the damper pipe and movable between a closed  
7 position and an open position;

8 a motor having a rotatable shaft extending therefrom operatively connected to  
9 the damper;

10 a control circuit which controls the motor to rotate the shaft and in turn rotate  
11 the damper to the closed position and to the open position; and

12 an adapter comprising an interior pipe and an exterior pipe connected to the  
13 interior pipe, with a first air passageway formed between the interior pipe and the  
14 exterior pipe and a second air passageway formed in the exterior pipe so that air can  
15 pass through the first and second air passageways and past the adapter;

16 wherein the interior pipe is connected to the damper pipe and adapted to be  
17 connected to an air-cooled flue.

18  
19 15. The damper control device of claim 14 wherein the interior pipe is adapted to  
20 fit snugly inside the air-cooled flue.